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Version of Claims with Markings to Show Changes

1. Device for carrying out chemical reactions and processes in high-frequency fields, [consisting of] comprising a high-frequency chamber which can be irradiated with at least one radiation source, in which a reactor can be exposed to the action of the high-frequency field, the reactor being able to be closed by a cover, the reactor being fixed on or in the upper wall of the high-frequency chamber through a separable positive and nonpositive engagement connection[, such as screwing, clamping, bayonet clamping, etc.,] and contains the solid, liquid and/or gaseous substance or substance mixtures to be investigated or to be treated, in a [preferably] pressure-resistant surroundings, [characterized by the fact] wherein that rod-like elements [(5)] are provided around the reactor [(1)], and form a pressure-resistant cage, which can be connected to the wall of the high-frequency chamber [(2)] in a positive and nonpositive manner of engagement to secure them either individually through fixing elements [(6)] and each of which has a guide [(11)] for holding a crown-shaped holder [(12)] for the reactor [(1)] or a reactor closure [(13, 13a)] where the holder [(12)] is fixed in its position in the manufacture of the positive and nonpositive engagement fixing of the rod-like elements [(5)].

2. Device according to Claim 1, [characterized by the fact] wherein the rod-like elements [(5)] are cylindrical and have as a guide a narrowing of the diameter which does not reach to the end of the rod-like element [(5)] and that the holder [(12)] preferably has u-shaped grooves which correspond in their position with the guides of the rod-like elements [(14 [sic, should be 5])].

3. Device according to Claim 1, [characterized by the fact] wherein the fixing elements each consist of a fixing adapter [(6)] with a threaded bore [(7)] on the face, with which the rod-like elements [(5)] can be secured as well as separated with the aid of screw

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connections [(16)] on bores [(8)] in the upper wall [(4)][, optionally through an annular flange] [(10)] and on the cover [(3)] of the high-frequency chamber [(2)].

4. Device according to Claim 1, [characterized by the fact] wherein the fixing elements [always] consist of a threaded bore on the face, provided directly in the rod-like elements [(5)], through which the rod-like elements [(5)] can be secured on or separated from bores (8) with the aid of screw connections [(16)] in the upper wall [(4), optionally through an annular flange (10)] and in the cover [(3)] of the high-frequency chamber [(2)].

5. Device according to [Claims 3 or 4] Claim 3, [characterized by the fact] wherein the cover [(3)] of the reactor [(1)] has screw connections [(16)] corresponding with the position of the bores [(8)] of the upper wall [(4)] of the high-frequency chamber [(2)] as well as with the threaded bores of the rod-like elements [(5)] or their fixing adapter [(6)], whereby, with the securing of the cover [(3)] on the upper wall [(4)] of t he high-frequency chamber [(2), optionally reinforced with at least one annular flange (10, 19)], at the same time the rod-like elements [(5)] are secured and fixed in their position to clamp the crown-shaped holder [(12)], and the high-frequency chamber is closed so that it is tight to microwaves.

6. Device according to Claim 1, [characterized by the fact] wherein the reactor [(1)] has an upper reactor closure [(15, 15a)] which is [preferably] connected to the cover [(3)] and, together with this, can be separated from reactor [(1)].

7. Device according to Claim 1, [characterized by the fact] wherein the reactor [(1)] has a lower reactor closure [(13, 13a)]which [preferably] can be separated from the reactor [(1)] and is provided for holding the crown-shaped holder [(12)].

8. Device according to Claim 7, [characterized by the fact] wherein the crown-shaped holder [(12)] and/or the lower reactor closure [(13, 13a)] have guide elements for the purpose of fixing the position of the reactor [(1), for example, a cylinder groove (18) and a cylinder flange (17) engaging in the above].

9. Device according to Claim 1, [characterized by the fact] wherein stop elements[, for example an annular flange (19),] are provided which facilitate the positive and nonpositive engagement of the rod-like elements [(2 [should be (5)])] on the upper wall [(4)] of the high-frequency chamber [(7 [should be (2)])], especially for the purpose of rapid and low-cost mounting or changing of the configuration of the device.

10. Device according to [Claims 6 and 9] Claim 19, [characterized by the fact] wherein the annular flange [(19)] is designed at the same time as a guide element for the cover [(3)] and the upper reactor closure [(15, 15a)].

11. Device according to Claim 1, [characterized by the fact that] wherein it is built as a single reactor system.

12. Device according to Claim 1, [characterized by the fact that] wherein, as a multiple reactor system, it is provided with multiple reaction chambers for holding inserts.

13. Device according to Claims 1 [and/or 12], [characterized by the fact] wherein the reactor or the multiple reaction chambers are designed as a batch reactor system.

14. Device according to Claims 1 [and/or 12], [characterized by the fact] wherein the reactor or the multiple reaction chambers are designed as a flow-through reactor system.

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